C3-RS-625

PROFESSIONAL TWO WAY REMOTE CAR STARTER
&
KEYLESS ENTRY SYSTEM
With Two Way Serial Port Data Link

INSTALLATION MANUAL

Compatible

THIS PRODUCT IS DESIGNED FOR PROFESSIONAL INSTALLATION ONLY

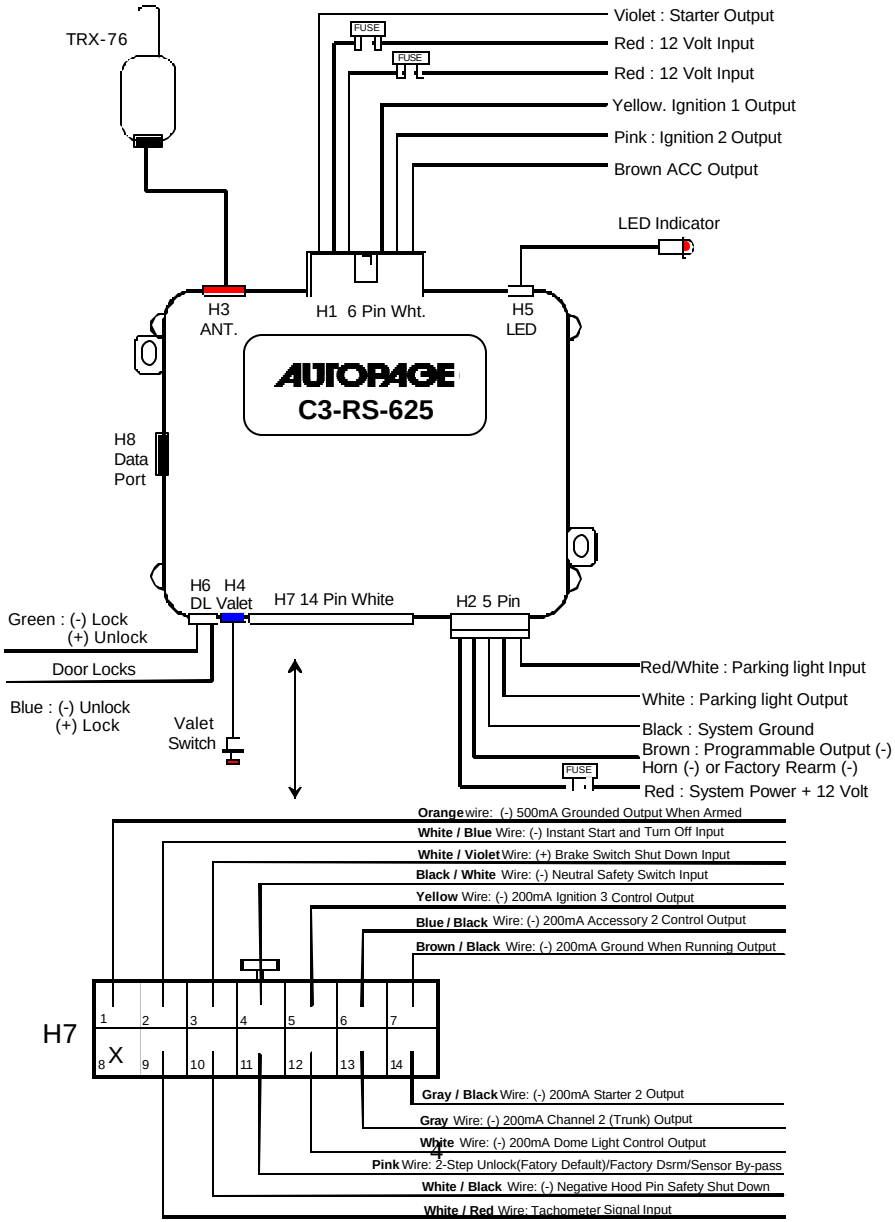
TABLE OF CONTENTS:

INTRODUCTION

This Remote Starter with Alarm and Keyless Entry System has been designed to be installed on fuel-injected vehicles with an automatic transmission **ONLY.**

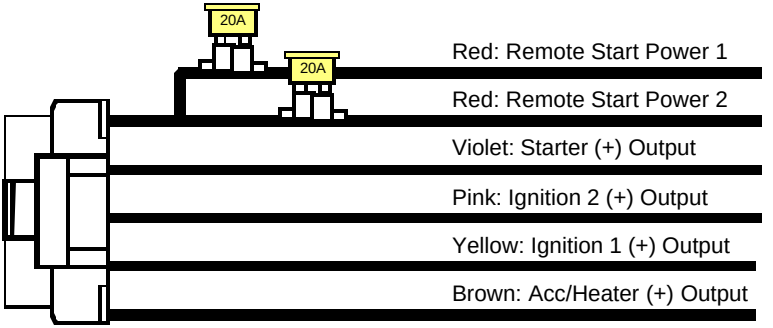
- Never install this remote starter on a manual transmission vehicle.
- This system must be installed and wired through a safety switch so it will not start in any forward or reverse gear.
- Some automatic transmission vehicles mainly older GM vehicles with a purple starter wire have a mechanical-type park safety switch instead of electrical safety switch. The mechanical type does not interrupt the starter circuit when the transmission is in any gear and does not offer the 100% level of safety required for remote starting purposes. Therefore, our system should never be installed on any vehicle that uses a mechanical type park safety switch.
- Once you install this system, you must verify that the vehicle will not start in any forward or reverse gear, regardless of the type of vehicle.
- Read the operation manual for operating.
- Do not install any component near the brake, gas pedal or steering linkage.
- Some vehicles have a factory installed transponder immobilizer system that can severely complicate the installation. There is a possibility that this system cannot be installed on some immobilizer-equipped vehicles.
- Most vehicles have an SRS air bag system. Use extreme care and do not probe any wires of the SRS system.
- Disconnect the car battery before beginning work on the vehicle.
- Check behind panels before drilling any holes. Ensure that no wiring harness or other components are located behind the panels that would otherwise be damaged.
- Do not use conventional crimp lock, bullet on any wiring. Poor wiring, i.e. taped joints will possibly introduce unreliability into the alarm system and may result in false alarms or incorrect operation. We suggest soldering all connection points.
- Install the wiring neatly under carpets or behind trim to prevent possible damage to wires.

INSTALLATION DIAGRAM:

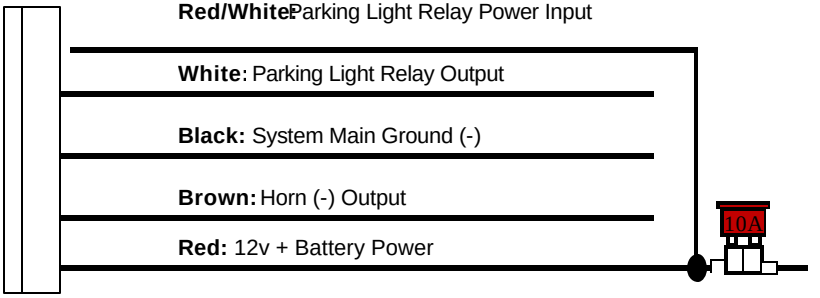


WIRE DIAGRAM:

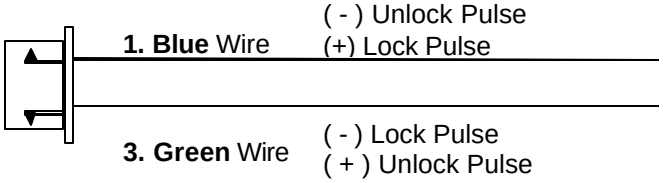
#H1 6 PIN HEAVY GAUGE WIRE HARNESS



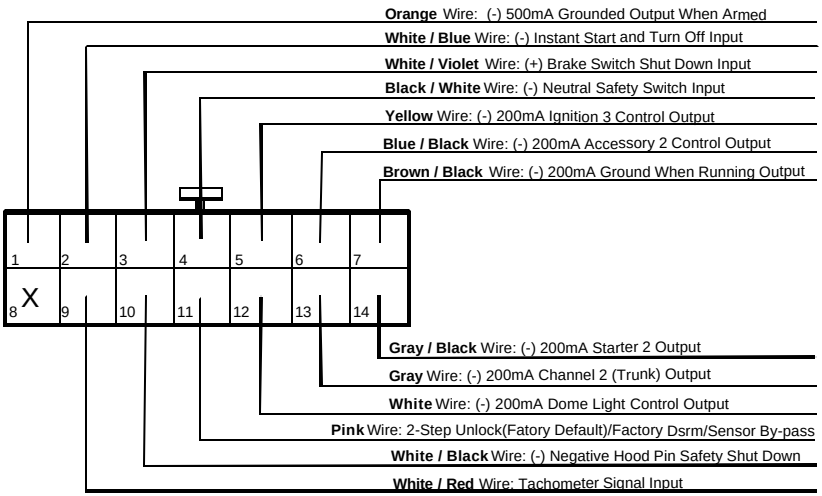
#H2 5 PIN WIRE HARNESS



#H6. 3 PIN DOOR LOCK CONNECTOR



#H7. 14 PIN MOLEX CONNECTOR:



WIRING

Keep wiring away from moving engine parts, exhaust pipes and high-tension cable. Be sure to tape wires that pass through holes on the firewall to prevent fraying.

CAUTION: Do not connect the wire harness to the control module until all wiring to vehicle is complete.

H1: 6 PIN HEAVY GAUGE WIRING CONNECTIONS:

Remember that what the system does to start a vehicle is to duplicate the functions of the ignition key switch! Below, we will explain the three basic functions of the ignition switch. Since this installation will require analysis of the ignition switch functions, we recommend making the three connections below at the ignition switch harness directly.

Violet Wire—Starter Output

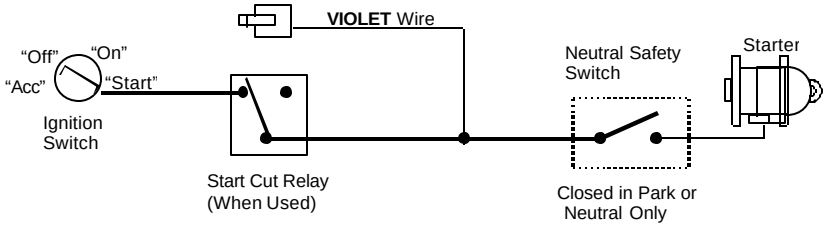
Careful consideration for the connection of this wire must be made to prevent the vehicle from starting while in gear. Understanding the difference between a mechanical and an electrical Neutral Start Switch will allow you to properly identify the circuit and select the correct installation method. In addition you will realize why the connection of the safety wire is required for all mechanical switch configurations.

Failure to make this connection properly can result in **personal injury and property damage.**

In all installations it is the responsibility of the installing technician to test the remote start unit and assure that the vehicle can not start via RF control in any gear selection other than park or neutral.

In both mechanical and electrical neutral start switch configurations, the connection of the VIOLET wire will be made to the low current start solenoid wire of the ignition switch harness. This wire has +12 volts when the ignition switch is turned to the "START" (CRANK) position only. This wire has 0 volts in all other ignition switch positions.

NOTE: This wire must be connected to the vehicle side of the starter cut relay (when used). For the electrical neutral switch configuration, this connection must be made between the starter inhibit relay (when used) and the neutral safety switch as shown in the following diagram. Failure to connect this wire to the ignition switch side of the neutral safety switch can result in personal injury and property damage. *SEE NEUTRAL START SAFETY TEST FOR FURTHER DETAILS.*



Red Wire (2)— +12V Power Input

Remove the two 20A fuses prior to connecting these wires and do not replace them until the satellite has been plugged into the control module. These wires are the source of current for all the circuits the relay satellite will energize. They must be connected to a high current source. Since the factory supplies (+) 12V to the key switch that is used to operate the motor, it is recommended that these wires be connected there.

Note: If the factory supplies two separate (+) 12V feeds to the ignition switch, connect one RED wire of the satellite to each feed at the switch.

Yellow Wire – Ignition 1 Output

Connect the YELLOW wire to the ignition 1 wire from the ignition switch. The ignition wire should receive "12 volts" when the ignition key is in the "ON" or "RUN" and "START" or "CRANK" position. When the ignition is turned "OFF", the ignition wire should receive "0" voltage.. **The YELLOW wire must be connected.**

PINK Wire – Ignition 2 Output

Some vehicles have [2] ignition wires that must be power. Connect the PINK wire to the ignition 2 wire from the ignition switch. The ignition wire should receive “12 volts” when the ignition key is in the “ON” or “RUN” and “START” or “CRANK” position. When the ignition is turned “OFF”, the ignition wire should receive “0” voltage. If the PINK wire is not used, cap the end of the wire.

Brown Wire –Accessory Output (Heater /AC Output)

Connect the BROWN wire to the accessory wire in the vehicle that powers the climate control system.

An accessory wire will show + 12 volts when the ignition switch is turned to the “ACCESSORY” or “ON” and “RUN” positions, and will show 0 Volts when the key is turned to the “OFF” and “START” or “CRANK” position. There will often be more than one accessory wire in the ignition harness. The correct accessory wire will provide power to the vehicle’s climate control system. Some vehicles may have separate wires for the blower motor and the air conditioning compressor. In such cases, it will be necessary to add a relay to power the second accessory wire.

H2: 5 PIN WIRE HARNESS:

RED / WHITE WIRE –PARKING LIGHT RELAY INPUT —

The RED/WHITE wire is the input to the flashing parking light relay. The connection of the RED/WHITE wire will determine the output polarity of the flashing parking light relay.

If the vehicle you are working on has +12volt switched parking lights, you don’t need connect this wire. This wire is already connected to +12volt.

If the vehicle’s parking lights are ground switched, cut the RED/WHITE wire, connect the RED/WHITE wire to chassis ground.

WHITE WIRE — PARKING LIGHT RELAY OUTPUT
(+12 V 10A OUTPUT) —

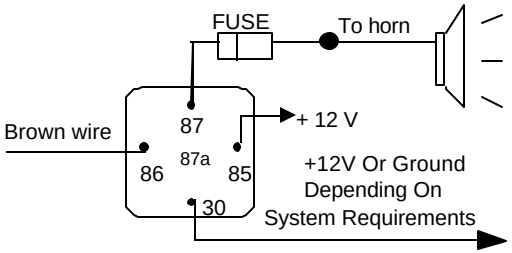
Connect the WHITE wire to the parking light wire coming from the headlight switch. Do not connect the WHITE wire to the dashboard lighting dimmer switch. (Damage to the dimmer will result). The limitation of the WHITE wire is 10 AMP max. Do not exceed this limit or damage to the alarm and parking relay will result.

BLACK WIRE — SYSTEM GROUND –

This is the main ground connection of the alarm module. Make this connection to a solid section of the vehicle frame. Do not connect this wire to any existing ground wires supplied by the factory wire loom, make the connection to the vehicle's frame directly.

BROWN WIRE – (-) 200mA HORN OUTPUT (Default) – Programmable A-2

This wire is provided to use the existing vehicle's horn as the alarm system's optional's warning audible device. It's a transistorized low current output, and should only be connected to the low current ground output from the vehicle's horn switch



This wire can also be programmed for factory system rearm. See program Table "A" # 2

RED WIRE — SYSTEM POWER (+12V CONSTANT) —

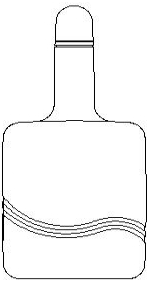
The RED wire supplies power to the system. Connect this wire to a stable constant +12 volt source.

H5: 2 PIN WHITE CONNECTOR (THE LED STATUS INDICATOR):

The led indicator status should be mounted in a highly visible area such as top of the dashboard, on top of the shifter console or on dashboard face. Leave at least 6mm space behind the mounting location for LED housing. Once a suitable location is chosen, drill a 6mm hole. Run the LED wires through the hole then press the 2-pin LED housing into the place. Route the LED wires to the control module.

H3. 4-PIN BLACK CONNECTOR. –
TWO-WAY TRANSCEIVER/ANTENNA MODULE

The Two-way transceiver/antenna mounting location should be the upper left or lower left corner of driver's windshield. For optimum range we suggest that the antenna be mounted as shown in picture to the right. (Antenna tip facing up)



Warning!

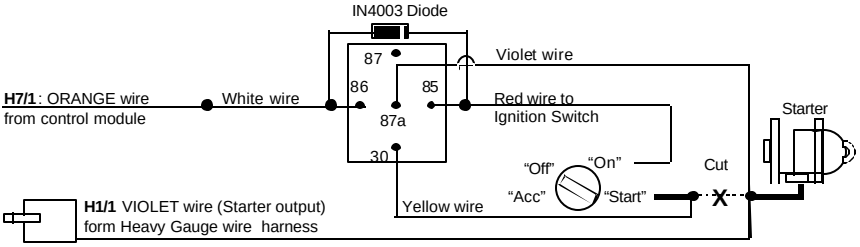
Do not mount in such a manner that it obstructs the driver's view.

- Remove the protective tape backing.
- Carefully align the two-way transceiver/antenna and apply to windshield.
- Route the black connector wire behind the trim and connect to the two-way transceiver/antenna.
- Connect the other end to the control module.
- Special considerations must be made for windshield glass as some newer vehicles utilize a metal-shielded window glass that will inhibit or restrict RF reception. In these vehicles, route the two ways transceiver/antenna module away from metallic shielded window glass as far as possible.

H7: 14-PIN MOLEX WHITE CONNECTOR WIRE HARNESS:

ORANGE WIRE – (-) 500ma GROUNDED OUTPUT WHEN ARMED

This wire will become grounded when the alarm is armed. The current capacity of this wire is 500mA. This output can control starter disable.



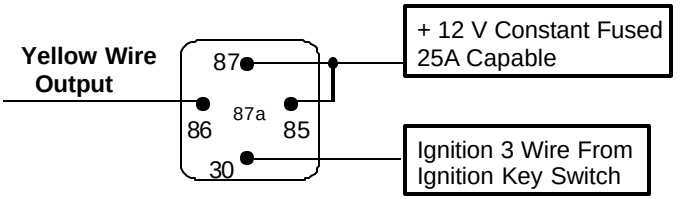
YELLOW WIRE: (-) 200ma IGNITION 3 OUTPUT –

This wire provides a 200mA (-) ground output that becomes active 4 seconds before the remote start unit is initialized, and remains grounded while running.

Ignition 3 output:

Some newer vehicles use a third ignition wire, which is required to start and keep the vehicle's engine running. If this is the case, wire an IGN 3 relay (not supplied) as shown below:

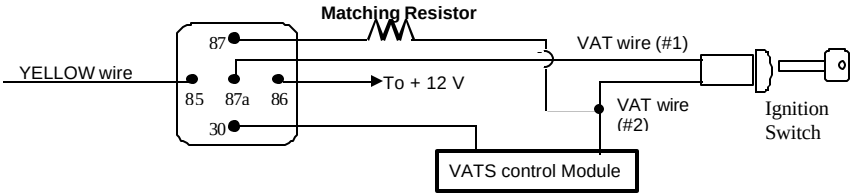
Do not connect any vehicle circuits together; they are isolated for a reason. See diagram next page.



GM VATS KEY OVERRIDE:

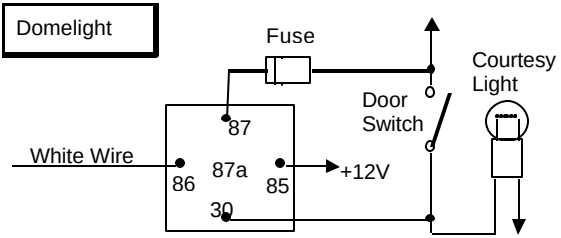
If the vehicle has the General Motor VATS system installed, you will need to by-pass the system while the vehicle is operating under the control of the Remote Start Unit. To do this:

1. Measure the resistance of the resistor pellet on the ignition key then select a resistor within 5% of the key's value.
2. Locate the pair of VATS wires in the vehicle, usually a pair of thin gauge wires running from the ignition switch to the VATS control module.
3. Connect the YELLOW wire from Remote Start Unit to Terminal #85 of the relay. Connect terminal #86 of the relay to a fused +12 volt.
4. Cut (#1) wire (as shown), and connect the ignition switch side of the cut wire to terminal #87a of the relay. Connect the other side of the (#1) wire to terminal #30.
5. Connect the previously selected resistor from terminal #87 to the second (#2) wire (as shown).



WHITE WIRE – (-) 200ma PROGRAMMING OUTPUT
(See Alarm Feature A - 2 Programming)
DOME LIGHT CONTROL OUTPUT (Factory Default Setting)—
This wire becomes grounded when the dome light control circuit is active. The current capacity of this wire is 200mA. This wire can control the operation of the interior lights. An optional 10 Amps relay can be added to this system for interior lights operation.

a). Upon disarming, the interior lights will remain on for 30 seconds.
b). If the vehicle is violated, the interior light will flash for the same duration as the siren



FACTORY SECURITY REARM SIGNAL OUTPUT–
(See Alarm Feature A- 2 Programming)
This wire is designed to rearm a factory installed security system. This wire will supply a pulse whenever the remote start times out or is shut down using the transmitter and remote door locking.

PINK WIRE – (-) 200ma PROGRAMMING OUTPUT
(See Alarm Feature A - 3 Programming)

2 STEPS UNLOCK OUTPUT (Factory Default Setting) —
The 2 step unlock feature will work for the most fully electronic door lock circuit. The vehicle must have an electronic door lock switch (not the lock knob or key switch), which locks and unlocks all of vehicle's doors. When wired for this feature, pressing the disarm (or unlock) button one time will disarm the alarm and unlock the driver's door only. If you press the disarm (or unlock) button two times within 3 seconds, the alarm will disarm and all doors will unlock.

FACTORY SECURITY DISARM SIGNAL OUTPUT –
(See Alarm Feature A - 3 Programming)

This wire is designed to disarm a factory installed security system. This wire sends a negative (-) 1 second pulse upon a remote start and remote door unlocking. Some factory systems must be disarmed to allow remote starting. In most cases, this wire may be connected directly to the factory alarm disarm wire.

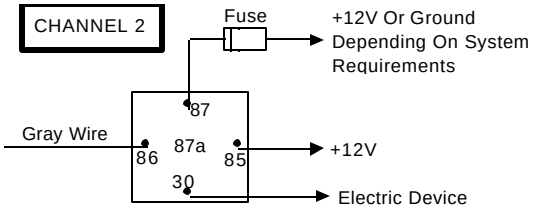
SENSOR BY-PASS OUTPUT–
(See Alarm Feature A - 3 Programming)

This wire is used for a by-pass module. This wire will supply an output at all times the remote start is operating plus an additional 3 seconds after the remote start unit turn off.

In some cases a vehicle may require a timed pulsed output or key sense wire. If needed, program the Sensor by-pass to 20 seconds.

GRAY WIRE – (-) 200ma PROGRAMMING OUTPUT
(See Feature A - 2 Programming)
CHANNEL 2 Output (Factory Default Setting)–

This will become a 1 second pulse ground by activate channel 2 on transmitter for two seconds. The current capacity of this wire is 200 mA. This feature allows you to remote control trunk release or other electric device.



FACTORY SECURITY REARM SIGNAL OUTPUT–
(See Alarm Feature A - 2 Programming)

This wire is designed to rearm a factory installed security system. This wire will supply a pulse whenever the remote start times out or is shut down using the transmitter and remote door locking.

WHITE/BLUE WIRE – (-) INSTANT START & TURN OFF INPUT –

This wires activates and turns off the remote starter each time it sees a momentary ground signal. Use to integrate with a factory or after-market system. 1-pulse is for an Aftermarket alarm and 3-pulse is for Factory systems. *See Alarm Feature B-4 programming.*

BLACK/WHITE WIRE —
(-) Remote Start Enable Toggle Switch Input
(-)Neutral Safety Switch Input —

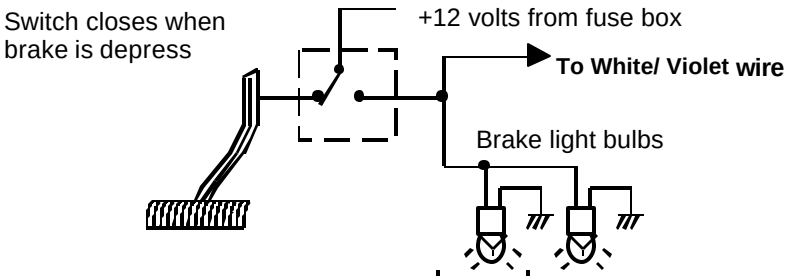
When the BLACK/WHITE wire is grounded, the remote start unit is operable. When this wire is open from ground, the remote start is disabled.

1. The optional "remote start toggle switch" can be added on to temporarily disable the Remote Start Device, preventing the vehicle from being remote started accidentally. This feature is useful if the vehicle is being serviced or stored in an enclosed area. To disable the remote start, move the optional remote start enable toggle switch to the OFF position. To enable the remote start, move the optional remote start enable toggle switch to the ON position.
2. If needed, this wire can be connected to the PARK/NEUTRAL switch in the vehicle. (See the TESTING YOUR INSTALLATION GUIDE)

IMPORTANT NOTE: Directly connect the BLACK/WHITE wire to the "GROUND" when this wire is not used.

WHITE/VIOLET WIRE: <u>POSITIVE SAFETY SHUT DOWN INPUT</u>

This wire provides an instant shutdown for the remote start, whenever it gets +12volts. If the brake lights switch in the vehicle switches +12 volts to the brake light circuit, connect this wire to the output side of the brake switch. This will allow the remote start to shut down if an attempt is made to operate the vehicle without the key while running under the control of the remote start. In most vehicles, in order to shift gear, the brake pedal must be depressed. The brake input will in turn cause the remote start unit to shut off. See below diagram.



WHITE/BLACK WIRE –
NEGATIVE SAFETY SHUT DOWN INPUT —

The WHITE/BLACK wire provides an instant shutdown for the remote start, whenever it is grounded. Connect the wire to the hood pin switch previously installed. This wire must be routed though a grommet in the firewall and connected to the hood pin switch.

Important! This connection is a safety wire and must be connected as shown and tested as specified. Failure to do so may result in personal injury or property damage. See detail of wiring in the following diagram. This wire may also be used if the vehicle brake light circuit switches ground to the brake lights. An isolation diode must be used for ground switched brake light circuits and must be connected to the output of the brake switch.

WHITE/RED WIRE—Tachometer Signal connection—

This input provides the remote start system with information about the engine's revolutions per minute (RPM). It can be connected to the negative side of the coil in a vehicle with conventional coils. In multi-coil and high energy ignition system locating a proper signal may be more difficult. Once connected, you must Program the Start Feature **D – 2** to "Tachometer checking type" and teach the system the RPM signal. (See Start Feature **D – 2** Programming.)

To test for a tachometer wire, a multi-meter capable of testing AC voltage must be used. The tachometer wire will show between 1V and 6V AC at idle, and will increase as engine RPM increases. In a multi-coil ignition system, the system can learn individual coil wire. Individual coil wires in a multi-coil ignition system will register lower amounts of AC voltage. Also, if necessary, the system can use a fuel injector control wire for engine speed sensing. Common locations for a tachometer wire are the ignition coils itself, the back of the gauges, engine computers, and automatic transmission computers.

IMPORTANT! Do not test tachometer wires with a test light or logic probe. The vehicle will be damaged.

How to find a tachometer wire with your multi-meter

1. Set the ACV or AC voltage (12V or 20V is fine.)
2. Attach the (-) probe of the meter to chassis ground.
3. Start and run the vehicle.
4. Probe the wire you suspect of being the tachometer wire with the red probe of the meter.
5. If this is the correct wire the meter will read between 1V and 6V.

NOTE: No connection of this wire is required if you use the voltage or timer checking type mode.

GRAY/BLACK WIRE: 200 mA (-) Second Starter Output.

This line can be used if a second starter line is needed. Some vehicles require two starter line to remote start. This wire provides a negative output that will work the same way as the Violet starter line in connector H1

BLUE/BLACK WIRE : 200 mA (-) Second Accessory Output

This wire will provide a negative output that can be used as a second accessory wire if necessary to operate climate controls or other accessories after remote start has started the engine of the vehicle.

BROWN/BLACK WIRE : 200 mA (-) Ground Output When Running.

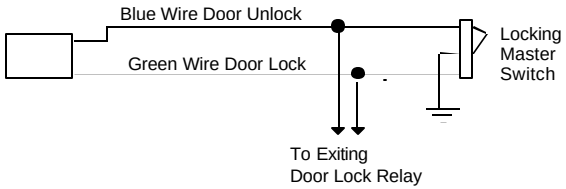
This wire provides a negative output during the remote start process. It can be used to operate by-pass modules that may be required in your installation. This wire will provide ground once the remote start process has been initiated and will remain grounded while the engine is running.

H4. 2 PIN BLUE CONNECTOR FOR THE VALET SWITCH:

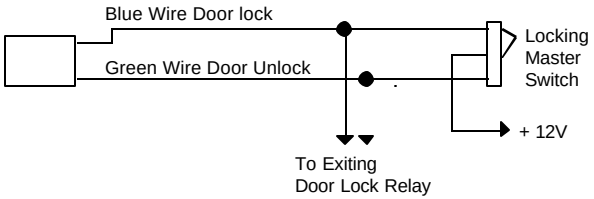
Select a mounting location for the switch that is easily accessible to the driver of the vehicle. The switch does not have to be concealed, however, concealing the switch is always recommended, as this provides an even higher level of security to the vehicle. Mount the valet switch in a hidden but accessible location. Route the valet switch wires to the control module.

H6. 3 PIN DOOR LOCK CONNECTOR

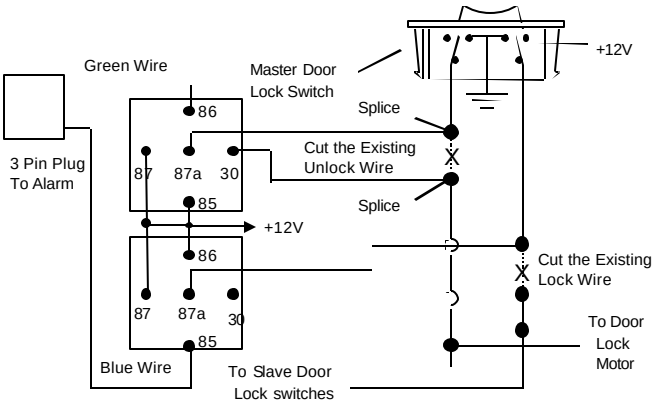
NEGATIVE TRIGGER DOOR LOCK SYSTEM



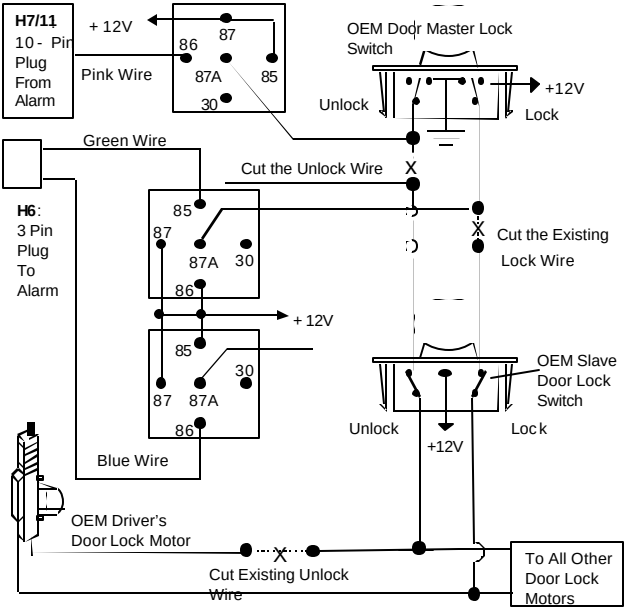
POSITIVE TRIGGER DOOR LOCK SYSTEM



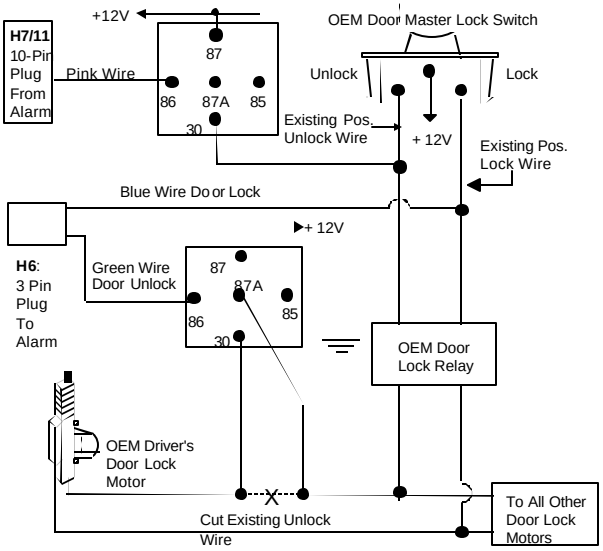
5-WIRE ALTERNATING DOOR LOCK



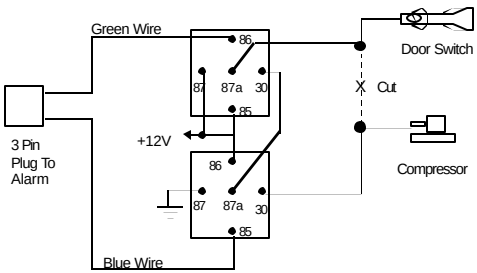
2 STEP DOOR UNLOCK WIRE
5 WIRE ALTERNATING DOOR



2 STEP DOOR UNLOCK WIRE POSITIVE SWITCHED DOOR



VACUUM OPERATED CENTROL LOCKING



VACUUM OPERATED DOOR LOCKING SYSTEM:
TYPICAL OF MERCEDES BENZ
AND AUDI.
Locate the wire under the driver's kick panel. Use the voltmeter connected to ground and verify that you have the correct wire. With the doors unlocked, the voltmeter will receive "12 volts". Lock the doors
and the voltmeter will read "0 volt". Move the alligator clip to +12V and
the voltmeter will receive "12 volts".
Cut this wire and make connections. Be sure to program door lock timer to
3.5 seconds.
(See Alarm Feature B – 3 Programming.)

H8. RS232 SERIAL DATA PORT CONNECTION:

This connector is to be used for Serial Data communications with i-datalink modules by Auto Page only! DO NOT CONNECT THIS TO ANY OTHER WIRING!

This connector will transmit digital codes to operate all functions of Autopage data modules. When these modules are used, no other data bus connections need to be made to the RS-622. The Data Bus module will receive

its commands directly from the CPU of the RS-622. This will provide greater theft protection as well as aid in the installation of this product. The RS-232 serial harness is provided with all Autopage serial data modules and is not included with the RS-622. This two-way data port has been designed for use with all C I 3 compatible components. C I 3 Telematics system is available at any authorized Autopage dealer.

This port will only operate correctly with Autopage C3 I-Datalink Modules.

PROGRAMMING

PROGRAMMING TRANSMITTER:

Note: This mode will only retain the last 4 remote transmitters programmed. If the transmitter memory is exceeded, the security system will start deleting transmitters from memory in chronological order.

1. Turn the Ignition 'switch '**OFF/ON' 3 TIMES** and stay in **ON position**. "Within 15 seconds".
2. Push the Valet switch **2 times** and hold it on the **2nd** push until a long chirp is heard then release the valet switch. You are now in the Transmitter programming mode.
3. Press and hold any button of the transmitter until the siren responds with a confirming chirp, indicating the signal has been stored into memory.
4. If you have additional transmitters (up to 4) that need to be programmed, repeat step 3 for each transmitter.

Exit: Turn Ignition to 'OFF' position, or leave it for 15 seconds. 3 long chirps & 3 parking light flashes will confirm exit.

FEATURE PROGRAMMING:

FEATURE "A" PROGRAMMING:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch **3** times (holding in on the 3rd push) until **one** chirp with a long chirp is heard, then release the valet switch. You are now in Alarm feature **'A'** programming mode.
3. Press and release the transmitter button corresponding to the feature you want to program. (See chart on next page)
   The siren chirps and LED pulse will indicate new setting.
   The factory default settings are always [1] LED flash, [1] siren chirp.
4. Depress the transmitter button to change the feature. Simply keep re-depressing the transmitter button again until the module advances to your desired setting.

a. In this case, Press the button again, the module will advance to [2] LED flash, [2] horn chirp.

b. Press the button again; the module will advance to [3] LED

flash, [3] horn chirps etc.

Press Transmitter Button	One Chirp / LED one pulse **Factory Default Setting**	Two Chirps / LED two pulse	Three Chirps / LED three pulse	Four Chirps / LED four pulse
1	**Pathway illumination feature "off:**	Parking lights turn "on for 30-seconds upon disarm	Parking lights turn on for 30-seconds upon disarm & 10 sec. upon arm	
2	**Brown Wire= Horn White Wire= Dome Light Gray Wire= 2nd Channel**	Brown Wire= **Factory Rearm** White Wire= Dome Light Gray Wire= 2nd Channel	Brown Wire= Horn White Wire= **Factory Rearm** Gray Wire= 2nd Channel	Brown Wire= Horn White Wire= Dome Light Gray Wire= **Factory Rearm**
3	**Pink Wire= 2 Step Unlock**	Pink Wire= Factory Disarm	Pink Wire= Sensor by-pass	Pink Wire= Sensor by-pass 20sec
4 ✱	**Confirmation Chirps "ON"**	Confirmation Chirps **"Off"**		
5 + ✱	**Lock/Arm & Unlock/Disarm Confirmation Chirps**	Lock/Arm Confirmation Chirp Only		

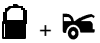
Exit: Turn Ignition to 'ON' position, or leave it for 15 seconds.
3 long chirps & 3 parking light flashes will confirm exit.

FEATURE "B" PROGRAMMING:

1 Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.

2 Push the Valet switch **5** times (holding in on the 5th push) until **two** chirps with a long chirp is heard then release the valet switch. You are now in the Alarm feature **'B'** programming mode.

Press and release the transmitter button corresponding to the feature you want to program.

Press Transmitter Button	One Chirp / LED one pulse **Factory Default Setting**	Two Chirps / LED two pulse	Three Chirps / LED three pulse	Four Chirps / LED four pulse
1 	**Door Lock before start**	Door Lock after start	Door Lock before & after start	Without this feature
2 	**Ignition controlled door locks & unlocks**	With ignition controlled door locks Only	With ignition controlled door Unlocks Only	Without ignition controlled door locks & unlocks
3 	0.8 second door lock & unlock	3.5 second door lock & Unlock	0.8 second Lock, 0.35 second Unlock	0.8 sec. dbl Lock 0.8 sec. db Unlock
	Five Chirps = 0.8 second Lock, double 0.8 second. Unlock **Six Chirps** = Double 0.8 second Lock, 0.8 second Unlock **Seven Chirps** = Door lock with "Comfort Feature" **Eight Chirps = DBI Two step unlock (DBI ONLY)** **Nine chirps = DBI Unlock ALL doors (DBI Only)** ****Select either of these options when using Autopage Two Way Data Bus Interface Only. For use with ADS CI3 Compatible data modules and/or CI3 Telematics Module.**			
4 ✱	White/Blue= 1 Pulse start (-) trigger input	White/Blue= 2 Pulse start (-) Trigger input	White/Blue= 3 Pulse start (-) trigger input	
5 	Press ✱ button = Activate Remote Start.	Press ✱ - ✱ button twice = Activate Remote Start.	Press  + ✱ button = Activate Remote Start.	

Exit: Turn Ignition to 'ON' position, or leave it for 15 seconds.
3 long chirps & 3 parking light flashes will confirm exit.

NOTE: Before an attempt to remote start, the unit must be programmed for a system type, Tachometer Check, Voltage Check or Timer Check.
If none of the check types have been programmed, The Remote start will have not function properly

REMOTE START FEATURE PROGRAMMING:

FEATURE "C" PROGRAMMING:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch **7** times (holding in on the 7th push) until **three** chirps with a long chirp is heard then release the valet switch. You are now in the Start feature **'C'** programming mode.

Press and release the transmitter button corresponding to the feature you want to program.

Press Transmitter Button	One Chirp / LED one pulse **Factory Default Setting**	Two Chirps / LED two pulse	Three Chirps / LED three pulse	Four Chirps / LED four pulse
1	3 Hours Timer Start	2 Hours Timer Start		
2	Gasoline Engine	Diesel Engine Wait-To-Start Light 10 sec warm-up	Diesel Engine Wait-To-Start Light 15 sec warm-up	Diesel Engine Wait-To-Start Light 20 sec warm-up
3	20 minutes run time	30 minutes run time	10 minutes run time	5 minutes run time
4	Factory alarm disarm with channel 2 on	Without this feature		
5 +	Constant parking light output upon Remote Start	Flashing parking light output upon Remote Start		

6 + ✱	Vehicle without Turbo (The system Can not Arm with the engine running)	Vehicle with Turbo (The system Can be Armed with the engine running and the engine will run by itself after the ignition is turned off)	Press and ✱ buttons at the same time to control Engine run time for **1 minute**	Press and ✱ buttons at the same time to control Engine run time for **3 minutes**
		Five chirps = Press and ✱ buttons at the same time to control Engine run time for **5 minutes**		

Exit: Turn Ignition to 'ON' position, or leave it for 15 seconds.
3 long chirps & 3 parking light flashes will confirm exit.

START FEATURE "D" PROGRAMMING:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch **9** times (holding in on the 9TH push) until **four** chirps with a long chirp is heard then release the valet switch. You are now in the Start feature **'D'** programming mode.
3. Press and release the transmitter button corresponding to the feature you want to program.

Press Transmitter Button	One Chirp / LED one pulse **Factory Default Setting**	Two Chirps / LED two pulse	Three Chirps / LED three pulse	Four Chirps / LED four pulse
1	Exit the programming mode. (3 long chirp & 3 parking light flashes to confirm this exit.)			
2 +	**Tachometer Check type (3A)**	Voltage check type (go to 3B)	Timer checking type (go to 3B)	**Data Bus Interface Mode****
3	**A> RPM learning – see RPM Learning page 25.**			
	B> Start Crank Time: **0.6-second**	0.8-second (2 chirps), 1.0-second (3 chirps), 1.2-second (4 chirps), 1.4-second (5 chirps), 1.6-second (6 chirps), 1.8-second (7 chirps), 2.0-second (8 chirps), 3.0-second (9 chirps), 4.0-second (10 chirps),		
4	**Low check level**	Hi check level		
5 ✱	Start or Stop the system for TESTING & ADJUSTMENT			

6 🔓 +	**+ 50 RPM DBI ONLY**	No RPM learning		
7 + ✱	**- 50 RPM DBI ONLY**	No RPM Learning or < 50RPM		

Exit: Press the 🔒 button on the transmitter. 3 long chirps & 3 parking light flashes will confirm exit.

**** This will be used when connected to an Autopage CI3 compatible Two-way data module that will recognize the tach signal from the vehicle. This signal will need to be learned in the same manner as the analog tachometer wire. If this learned value needs to be adjusted, use steps 7 and 8 of this programming table**

IMPORTANT NOTE:
You must program the "Tach Signal" before trying to remote start.

RPM LEARNING / TACHOMETER CHECKING TYPE

TACHOMETER CHECKING TYPE:

Enter Start Feature 'D' Programming Mode:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch **9** times (holding in on the 9th push) until **four** chirps with a long chirp is heard then release the valet switch. You are now in the Start feature **'D'** programming mode.

Select "Checking Type":

3. Press and release the transmitter 🔒 + 🔓 button once to set the "Tachometer Checking Type". [1] LED flash, [1] Horn chirp to confirm this setting.
4. Once you complete step 3, you can program "RPM Learning Mode" as follows:

RPM LEARNING:

While the system is in Start Feature **"D"** programming mode,

1. Press and release the transmitter 🔓 button once, [1] LED flash, [1] horn chirp indicating you are in features "RPM Learning mode".
2. Start the vehicle with the key. (While the engine is running, the parking light & LED will flash, if not, please check the tachometer White/Red wire connection.
3. Press and hold the valet switch for 2 seconds until a long chirp and the LED light is constant for two seconds. The RPM signal is learned.
4. Once you complete step 3, you can adjust and test "Check Level" as below:

CHECK LEVEL PROGRAMMING: (TEST & ADJUST)

While the system is in Start Feature **"D"** programming mode,

1. Press the ✱ button on the transmitter to start the vehicle.
2. If everything goes well:

a. Press the ✱ button on the transmitter to stop engine running. You have been completed this programming successfully.

b. Press 🔒 button on the transmitter to exit the program mode. There will be 3 long chirps & 3 parking light flashes for confirmation.

3. If the crank time is too long, (starter will crank while the engine is running):
   a. Press the ✱ button on the transmitter to stop engine running. Press 🏍 button on the transmitter to set proper "Check Level " to Low position. [1] LED flash, [1] horn chirp to confirm this setting
   b. Repeat the step1 – 4 if necessary.
4. If the crank time is too short, (Engine not running, after starter stops cranking):
   a. Press the ✱ button on the transmitter to stop engine running. Press 🏍 button on the transmitter to set proper " Check Level " to Hi position. [2] LED flash, [2] horn chirp to confirm this setting
   b. Repeat the step1 – 4 if necessary.

VOLTAGE CHECKING TYPE:

Enter Start Feature 'D' Programming Mode:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch **9** times (holding in on the 9th push) until **four** chirps with a long chirp is heard then release the valet switch. You are

now in the Start feature **'D'** programming mode.

Select "Checking Type":

3. Press the transmitter 🔒 + 🔓 button to set the "Voltage Checking Type". [2] LED flash, [2] horn chirp to confirm this setting

Once you complete step 3, you can adjust and test "Start Timer" as below:

VOLTAGE START PROGRAMMING: (TEST & ADJUST)

While the system stay in Start Feature **"D"** programming mode,

1. Press the ✱ button on the transmitter to start the vehicle.
2. If everything goes well: Wait for 10 seconds:
   a. If the engine still running.
      I. Press the ✱ button on the transmitter to stop engine running.
         You have completed this programming successfully.
      II. Press 🔒 button on the transmitter to exit the program mode. There will be 3 long chirps & 3 parking light flashes for confirmation.
   b. If the engine shuts down after the vehicle has started:
      I. Press the '✱ button on the transmitter to stop engine running.
      II. Press 🚗 button on the transmitter to set "**Check Level**" to LOW position. [1] LED flash, [1] horn chirp to confirm this setting
      III. Repeat the step1 – 2.
3. If the crank time is too long, (Engine running but starter still cranks):
   a. Press the ✱ button on the transmitter to stop engine running.
   b. Press 🔓 button on the transmitter to set proper "Start Timer". The chirp & LED pause will confirm this entry. (Decrease "Start Timer" is necessary.)
   c. Repeat the step1 – 4 if necessary.
4. If the crank time is too short, (Engine is not running, starter has stopped cranking):
   a. Press the ✱ button on the transmitter to stop engine running.
   b. Press 🔓 button on the transmitter to set proper "Start Timer". The chirp & LED pause will confirm this entry. (Increase "Start Timer " is necessary.)
   c. Repeat the step1 – 4 if necessary.

TIMER CHECKING TYPE:

Enter Start Feature 'D' Programming Mode:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch **9** times (holding in on the 9th push) until **four**

chirps with a long chirp is heard then release the valet switch. You are now in the Start feature **'D'** programming mode.

Select "Checking Type":

3. Press the 🔒 + 🔓 transmitter button to set the "Timer Checking Type". [3] LED flash, [3] horn chirp to confirm this setting
4. Once you complete step 3, you can adjust and test "Start Timer" as below:

TIMER START PROGRAMMING: (TEST & ADJUST)

While the system stay in Start Feature **"D"** programming mode,

1. Press the ✱ button on the transmitter to start the vehicle.
2. If everything goes well:

a. Press the ✱ button on the transmitter to stop engine running. You have completed this programming successfully.

b. Press 🔒 button on the transmitter to exit the program mode. There will be 3 long chirps & 3 parking light flashes for confirmation.

3. If the crank time is too long, (Engine is running, while starter still cranks):

a. Press the ✱ button on the transmitter to stop engine running.

b. Press the 🔓 button on the transmitter to set proper "Start Timer". The chirp & LED pause will confirm entry. (Decrease "Start Timer" is necessary.)

c. Repeat the step1 – 4 if necessary.

4. If the crank time is too short, (Engine not running, while starter stops cranking):

a. Press the ✱ button on the transmitter to stop engine running.

b. Press 🔓 button on the transmitter to set proper "Start Timer". The chirp & LED pause will confirm this entry. (Increase "Start Timer " is necessary.)

c. Repeat the step1 – 4 if necessary.

RETURN TO FACTORY DEFAULT SETTING:

1. Turn the ignition ON then OFF 3 TIMES and stay in OFF position.
2. Push the Valet switch **12** times (holding in on the 12th push) until **Six** chirps with a long chirp is heard then release the valet switch. You are now in the "Return To Factory Default Setting" programming mode.
3. Press the 🔒 + 🚗 button on the transmitter together for 6 seconds, there will be a confirmation six chirp with 3 long chirp and parking light flash 3 times to confirming the system "Alarm Feature A & B Programming" all returns to factory default setting.

RETURN TO START FEATURE FACTORY DEFAULT SETTING:

4. Press the button first within 3 seconds, then press the + button on the transmitter together for 6 seconds, there will be a confirmation six chirp with 3 long chirp and parking light flash 3 times to confirming the system "Start Feature C & D Programming all returns to factory default setting.

DATA BUS RESET FOR C I 3 INTERFACE

1. Turn the ignition ON then OFF 3 TIMES and stay in OFF position.
2. Push the Valet switch **14** times (holding in on the **14th push**) until **six** chirps with one long chirp is heard then release the valet switch. You are now in the "Data Bus Reset Setting" programming mode.

Data Bus Reset:

3. Press and hold the and buttons at the same time on the transmitter, there will be a confirmation **six chirps with three long chirps** to confirm the system has reset the data bus.

SHUT DOWN DIAGNOSTICS:

The unit has the ability to report the cause of the last shutdown of the remote start system.

Enter:

1. Turn the Ignition 'switch to 'ON position.
2. Press the button on the transmitter.
3. The LED will now report the last system shutdown by flashing for one minute in the following grouped patterns:

LED Flashes	Shutdown Mode	
1	(-) Safety Shutdown input (Hood)	1. Close the hood. 2. Check **H7/10** White/ Black wire connection.
2	(+) Safety Shutdown input (Brake) or Neutral Safety Switch input fail.	1. Check **H7/3** White/ Violet wire connection. 2. Move the Enable Toggle Switch to "ON" position. (If installed.) 3. Move the gear selector to "Park"/ "NEUTRAL" position. 4. Check **H7/4** Black/White wire connection.
3	No RPM or Low Voltage.	Tachometer Checking Type**:** Check **H7/9** White/Red wire connection Voltage Checking Type**:** Program the "CHECK LEVEL" from "Hi Check Level" to "Low Check Level"
5	Over-rev	

6	System timed out	
7	Transmitter	
8	Tach. Signal has not been learned	Re-learning the RPM (Start Feature **D** – 2 / 3)

TESTING YOUR INSTALLATION:

Caution!! The follow procedure must be performed after the installation of the Remote Start Device. It is the responsibility of the installing technician to complete these tests. Failure to test the unit in the following manner may result in personal injury, property damage, or both.

1. **Test the BRAKE shutdown circuit:** With the vehicle in park (P), start the vehicle using the remote transmitter, Once the engine is running, press the brake pedal. The vehicle should shut down immediately. If the vehicle continues to run, check the brake circuit WHITE/ VIOLET wire (H7/3) connection.
2. **Test the HOOD PIN shutdown circuit:** Start the vehicle using the remote transmitter, Once the engine is running, pull the hood release and raise the hood. The vehicle should shut down immediately. If the vehicle continues to run, check the hood pin WHITE/ BLACK wire (H7/10) connection.
3. **NEUTRAL START SAFETY TEST:**
   1. Set the vehicle parking brake.
   2. Block the drive wheels to prevent vehicle movement.
   3. Sitting in the vehicle, turn the ignition switch to “ON” or “RUN” position. Do not start the engine.
   4. Step on the brake pedal and shift the gear selector into “DRIVE” (D).
   5. Put your foot over the brake pedal but do not press down on it. Be ready to step on the brake to shut down the Remote Start Device.
   6. Start the vehicle using remote transmitter.

a. If the starter does not engage, the test is complete.

b. If the starter engages, immediately step on the brake pedal to shut down the system, recheck your VIOLET wire (H1/1 starter output wire) connection. The heavy gauge VIOLET wire must be connected to the ignition switch side of the Neutral Start Switch. **I**f the vehicle you are working on does not have an Electrical Neutral Safety Switch, it will be necessary to reconfigure the Remote Starts Wiring to accommodate this vehicle. The information concerning the Mechanical Neutral Safety Switch provided below will help you to determine if the vehicle you are working on has this type of safety switch and will provide alternate wiring methods to accommodate this situation.

MECHANICAL NEUTRAL SAFETY SWITCH CONSIDERATIONS:

Mechanical neutral safety switch configurations differ slightly in that they do not offer the same level of safety when installing a remote start device. Often when the ignition switch is turned off while the gear selector is in any position other than park or neutral, the mechanical function will not allow the key to be turned to the start position or be removed from the ignition cylinder. This configuration prevents mechanical operation while the vehicle is in gear but offers no consideration for electrical operation. Because of this potential problem, this installation requires the additional connection of a safety wire from the remote start device to the vehicle PARK/NEUTRAL ECM input or the vehicle key in sensor. This connection will prevent remote start operation if the key is left in the ignition switch regardless of the gear selector position.

PARK/NEUTRAL ECM INPUT:

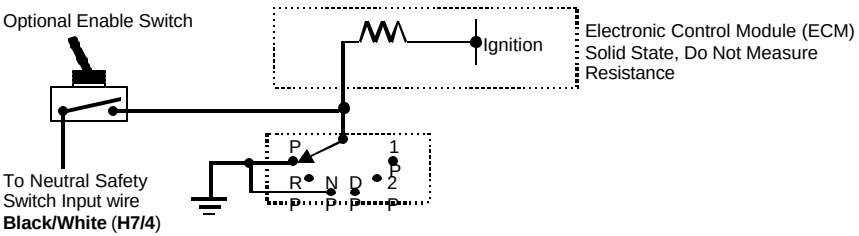
The Park/Neutral ECM input is the preferred method of installation. This not only maintains the integrity of the factory circuit, it is also the easiest to install, providing the vehicle you are working on has this ECM input.

The installation required for this application (shown below), indicates the slight reconfiguration of the control switch wiring. Shown is a typical GM Park/Neutral ECM input circuit. To connect the Remote Start unit to the GM Park/Neutral ECM input:

1. Locate the Orange/Black reference wire in the “C2” connector found at the ECM in GM B Body vehicles or, locate the equivalent reference wire in the vehicle you are installing the Remote Start Unit in.
2. Connect the BLACK/WHITE Neutral Safety Switch wire (H7/4) to this reference wire.

NOTE: If the optional remote starts enable toggle switch is installed, connect the one side of the enable switch to this reference wire and connect the other side of the enable switch to the BLACK/WHITE Neutral Safety Switch wire (H7/4) of the Remote Start unit.

The reference diagram below shows a typical GM B Body ECM reference wire and how it is to be connected to the Remote Start Unit.



KEY IN SENSOR CIRCUITS:

If the vehicle you are working on does not have or you cannot locate the ECM reference wire, there are two alternatives available. Although not preferred, the vehicle Key In Sensor may be reconfigured to allow a margin of safety and will prevent the vehicle with a Mechanical Neutral Start Switch from starting in gear.

WE ADVISE THAT YOU MAINTAIN THE FACTORY CIRCUIT WHENEVER POSSIBLE. The following two circuits may be used only if the above circuit is not available.

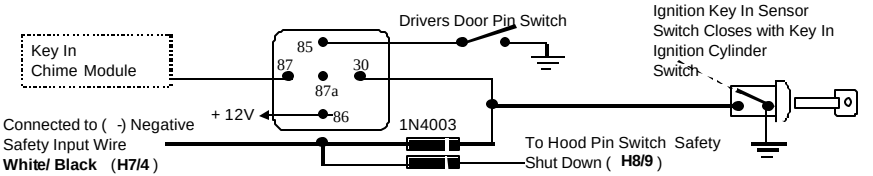
NOTE: When completing an installation using either of the following key in sensor circuits, if the operator inserts the ignition key while the vehicle is running under the control of the Remote Start, the vehicle will shut down. This must be explained to the operator as it is in contrast to the normal operation of a vehicle utilizing an electrical neutral start switch and is inconsistent with the operators manual.

Additional information concerning Key in Sensor methods 1&2 are listed below and should be reviewed before considering either alternative.

Method 1 will allow the safety required for the remote start unit and prevent the vehicle from starting while in any gear other than Park or Neutral while the key is in the ignition cylinder however, if the key is left in the ignition switch and the door is left opened, the added relay will be energized causing a 150mA drain on the battery.

Method 2 will allow the safety required for the remote start unit and prevent the vehicle from starting while in any gear other than Park or Neutral while the key is in the ignition cylinder however, the original factory key in chime module will not alert the owner that the key has been left in the ignition switch. In addition, this may also effect other warning tones such as the light on reminder.

These situations should be carefully considered before altering the vehicle's wiring and must be fully explained to the consumer.



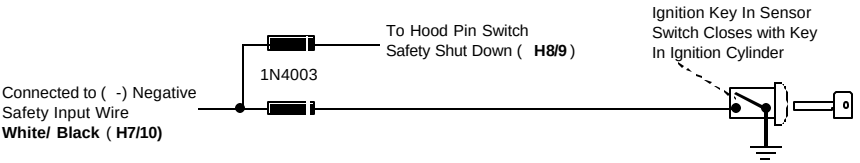
To connect to the key in sensor as shown in method 1:

A. Locate the control wire that connects the drivers door pin switch to the key in sensor switch.
B. Cut this wire and connect the ignition cylinder side to chassis ground.
C. Locate the key in sensor switch wire that connects the chime module to the ignition cylinder.

D. Cut this wire and connect the ignition cylinder side to terminal 30 of a P&B VF45F11 or equivalent relay.
E. Connect the cathode (striped) side of a 4003 series diode to this same wire, and connect the (non striped) side to the negative safely input wire (WHITE/ BLACK) (H7/4) of the Remote Start Unit.
F. Connect terminal 86 of the relay to a fused + 12 volt constant battery source.
G. Connect terminal 87 of the relay to the Chime Module side of the previously cut wire in step D.
H. Connect terminal 85 of the relay to the Drivers Door side of the pin switch wire previously cut in step B.

Note: **A second 4003 series diode may be required to maintain the integrity of the hood open, shut down circuit. If this is the case, it must be installed as shown in the diagram above. The anode (Non Striped) side must be connected to the WHITE/ BLACK wire (H7/11) of the Remote Start Unit. The cathode (Striped) side must be connected to the hood pin switch.**

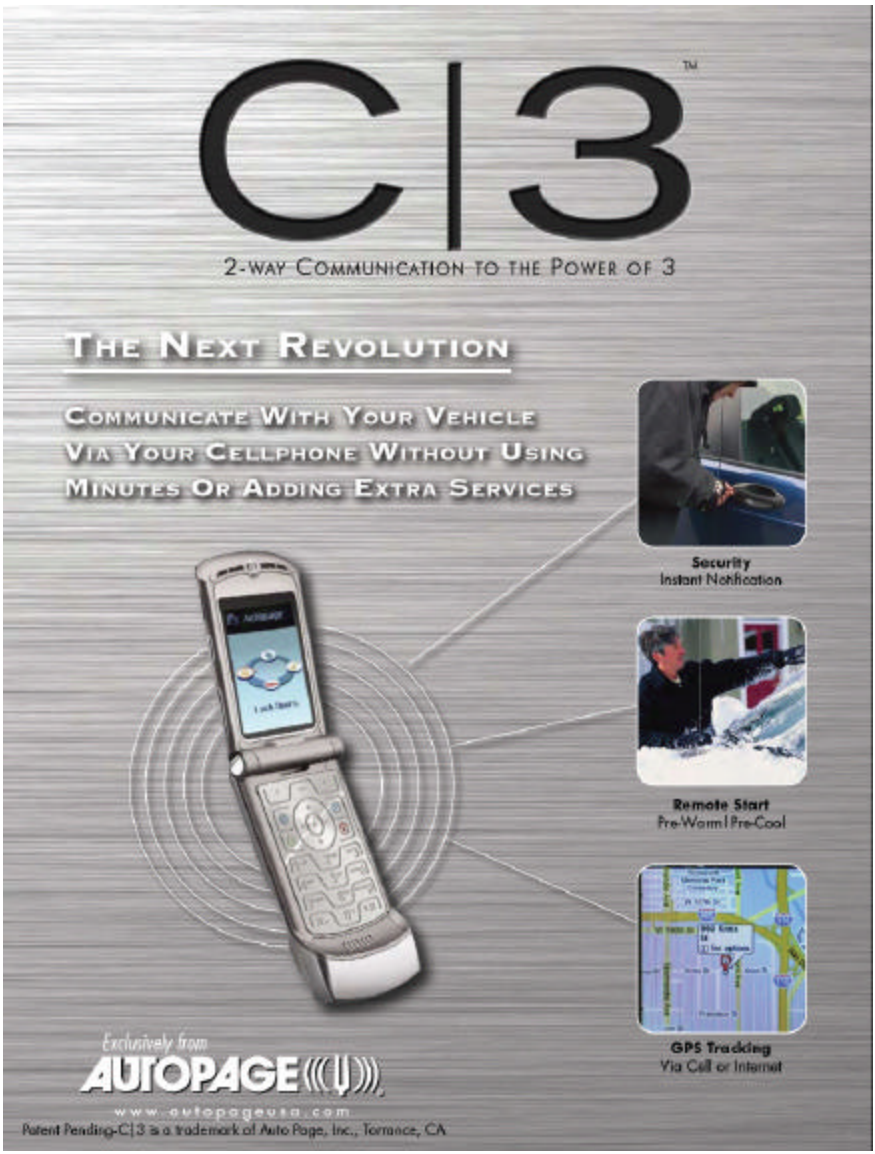
METHOD 2



To connect to the key in sensor circuit as shown for method 2:
A. Locate the control wire that connects the drivers door pin switch to the key in sensor switch.
B. Cut this wire and connect the ignition cylinder side to chassis ground.
C. Locate the key in sensor switch wire that connects the chime module to the ignition cylinder.
D. Cut this wire and connect the ignition cylinder side to the Remote Start Negative Safety Shut down wire WHITE/ BLACK (H7/10), using a 4003 series diode as shown above.

Note: A second 4003 series diode may be required to maintain the integrity of the hood open, shut down circuit. If this is the case, it must be installed as shown in the diagram above. The anode (Non Striped) side must be connected to the WHITE/ BLACK wire (H7/10) of the Remote Start Unit. The cathode (Striped) side must be connected to the hood pin switch.

AFTER THE CONNECTION OF THE NEUTRAL START SAFETY WIRE AS INDICATED IN ANY OF THE PREVIOUS ALTERNATE CONFIGURATIONS, THIS CIRCUIT MUST BE TESTED FOR OPERATION.



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